



PERSONNEL AND
READINESS

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

The Honorable James M. Inhofe
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

JAN 25 2017

Dear Mr. Chairman:

Please find enclosed the Department's response to Senate Report 114-263, page 193, to accompany S. 3000, the Department of Defense Appropriations Bill, 2017, concerning traumatic brain injury (TBI) and psychological health (PH). The Senate Report requested expenditure and obligation data of an additional \$60M in funding for research into the treatment and prevention of TBI and PH issues.

The enclosed report provides a summary of the projects funded by the fiscal year (FY) 2017 TBI PH. The FY 2017 TBI PH funded projects across four Defense Health Program core research areas, to include: medical simulation and information sciences; military operational medicine; combat casualty care; and clinical and rehabilitative medicine.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families. A similar letter is being sent to the other congressional defense committees.

Sincerely,

A handwritten signature in black ink that reads "James N. Stewart". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James N. Stewart
Assistant Secretary of Defense for Manpower
and Reserve Affairs, Performing the Duties
of the Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Jack Reed
Ranking Member



OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

The Honorable Adam Smith
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

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James N. Stewart
Assistant Secretary of Defense for Manpower
and Reserve Affairs, Performing the Duties
of the Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable William M. "Mac" Thornberry
Ranking Member



OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

JAN 25 2017

The Honorable Richard C. Shelby
Chairman
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

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James N. Stewart
Assistant Secretary of Defense for Manpower
and Reserve Affairs, Performing the Duties
of the Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Richard J. Durbin
Vice Chairman



OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

The Honorable Peter J. Visclosky
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

JAN 25 2019

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Sincerely,

James N. Stewart
Assistant Secretary of Defense for Manpower
and Reserve Affairs, Performing the Duties
of the Under Secretary of Defense for
Personnel and Readiness

Enclosure:
As stated

cc:
The Honorable Ken Calvert
Ranking Member

**REPORT TO CONGRESS IN RESPONSE TO SENATE REPORT 114-263, PAGE 193,
ACCOMPANYING S. 3000, THE DEPARTMENT OF DEFENSE APPROPRIATIONS
BILL, 2017**



“TRAUMATIC BRAIN INJURY/PSYCHOLOGICAL HEALTH”

The estimated cost of this report or study for the Department of Defense (DoD) is approximately \$600.00 in Fiscal Years 2017 - 2018. This includes \$0 in expenses and \$600.00 in DoD labor.

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I. PURPOSE

This report is in response to the Senate Report 114-263, page 193, accompanying S 3000, Department of Defense (DoD) Appropriations Bill, 2017, which requests the Assistant Secretary of Defense for Health Affairs (ASD(HA)) to submit a report to the congressional defense committees on expenditure and obligation data of the additional funding added by Congress for psychological health (PH) and traumatic brain injury (TBI), including information on agreements made with other government agencies.

This report also addresses Section 5 of former President Obama's August 31, 2012, Executive Order (EO), "Improving Access to Mental Health Services for Veterans, Service Members, and Military Families," which calls for the development of a National Research Action Plan (NRAP) to improve coordination among agency efforts working toward improving prevention and treatment of posttraumatic stress disorder (PTSD), TBI, and related PH issues.

II. BACKGROUND

Although TBI has been described as the signature injury of the Iraq and Afghanistan wars, its relationship with PH issues and other long-term health consequences are largely unknown. In relation to the goal of developing improved preventative and management strategies for TBI and associated PH issues in both the military and civilian populations, the DoD currently supports research projects that are relevant to the prevention, detection, diagnosis, treatment, and rehabilitation of TBI and PH issues. These include research into drug development for neurodegenerative diseases, as well as diagnostic and mapping tools related to TBI.

As directed by the Office of the ASD(HA), the Defense Health Agency J-9, Research & Development Directorate manages and executes the Defense Health Program (DHP) Research, Development, Test, and Evaluation (RDT&E) appropriation. The U.S. Army Medical Research and Materiel Command provides execution management support for the DHP RDT&E TBI/PH Congressional Special Interest (CSI) funds aligned with the following DHP core research areas:

- Joint Program Committee-1 (JPC-1)/Medical Simulation and Information Sciences Research Program (MSISRP)
- JPC-5/Military Operational Medicine Research Program (MOMRP)
- JPC-6/Combat Casualty Care Research Program (CCCRP)
- JPC-8/Clinical and Rehabilitative Medicine Research Program (CRMMP)

III. FISCAL YEAR 2017 DHP TBI/PH CSI EXPENDITURES

The total fiscal year (FY) 2017 DHP TBI/PH CSI expenditures for research is \$115,578,325.00.

A. JPC-1/MSISRP

The JPC-1/MSISRP Medical Simulation and Training portfolio is focused on improving military medical capabilities through the advancement of simulation in medicine and training. With FY 2017 DHP TBI/PH CSI funds, the JPC-1/MSISRP invested \$2,287,858.00 in warfighter performance, resilience, enhancement, and protection research. This investment helps achieve the goal of maintaining a capable and ready force that will be optimized for the future battlefield by increasing psychological resilience into pre-deployment training and increasing emphasis on mastery of skills and procedures through simulation system training tools (see Table 1).

Table 1. JPC-1/MSISRP FY 2017 DHP TBI/PH CSI Investments

JPC-1 Research Area	Title	Organization(s)	FY 2017 Investment
Warfighter Performance, Resilience, Enhancement, and Protection	Enhanced Resilience Training/Team Overmatch Phase I	Walter Reed Army Institute of Research Program Executive Office Simulation, Training, and Instrumentation U.S. Army Research Laboratory U.S. Army Communications-Electronics Command Naval Air Warfare Center Training Systems Division Maneuver Battle Lab	\$2,287,858

B. JPC-5/MOMRP

The JPC-5/MOMRP seeks to develop effective medical countermeasures against operational stressors and to prevent physical and psychological injuries during training and operations in order to maximize the health, readiness and performance of Service members and their families. These efforts are in support of the Army Human Performance Optimization and Enhancement, Human Dimension, Multi-Domain Operation, Dense Urban Environment/Subterranean Operations, Army Big 6 Modernization Priorities, and DoD Total Force Fitness concepts. The JPC-5/MOMRP psychological health and resilience research portfolio is focused on the prevention, treatment, and recovery of Service member and military family behavioral health, which is critical to force health and readiness. With the FY 2017 DHP TBI/PH CSI funds, the JPC-5/MOMRP invested \$45,650,746.00 in research in the following areas: (1) diagnosis and treatment of mental health disorders; (2) diagnosis and treatment of PTSD; (3) military, family, and community psychological health and resilience; (4) operational exposure standards for cumulative mild traumatic brain injury (mTBI); and (5) suicide prevention and reduction (see Table 2).

Table 2. JPC-5/MOMRP FY 2017 DHP TBI/PH CSI Investments

JPC-5 Research Area	Title	Organization(s)	FY 2017 Investment
Diagnosis and Treatment of Mental Health Disorders	Fort Campbell Phase 4 Pilot	New York University School of Medicine	\$851,554
Diagnosis and Treatment of PTSD	A Non-Inferiority Randomized Controlled Clinical Trial Comparing Interpersonal Therapy to Exposure Therapy for PTSD Consequent to Military Sexual Trauma in Male and Female Military Personnel and Veterans	Cornell University, Weill Medical College	\$4,077,741
Diagnosis and Treatment of PTSD	A Proof of Concept Clinical Trial for PTSD with a First-In-Class Vasopressin 1a Receptor Antagonist	Azevan Pharmaceutical, Inc.	\$435,510
Diagnosis and Treatment of PTSD	Massed Cognitive Processing Therapy for Combat-Related PTSD	Walter Reed National Military Medical Center	\$6,000
Diagnosis and Treatment of PTSD	Multi-Site Confirmatory Efficacy Treatment Trial of Combat-Related PTSD	University of Texas at Dallas	\$7,359,925
Diagnosis and Treatment of PTSD	Peer Social Support During In Vivo Exposure for PTSD: A Program to Address Dropout from Prolonged Exposure	Medical University of South Carolina	\$2,112,716
Diagnosis and Treatment of PTSD	Systems Biology	U.S. Army Center for Environmental Health Research	\$3,000,000
Diagnosis and Treatment of PTSD	Testing Two Scalable, Veteran-Centric Mindfulness-Based Interventions for Chronic Musculoskeletal Pain: A Pragmatic, Multisite Trial	Minnesota Veterans Research Institute	\$375,761
Diagnosis and Treatment of PTSD	Virtual Reality as a Tool for Enhancing the Proficiency of Behavioral Health Providers	University of Southern California, School of Social Work	\$585,039
Diagnosis and Treatment of PTSD Suicide Prevention and Reduction	Threat Monitoring and Behavioral Health throughout the Deployment and Career Cycle	Tel Aviv University	\$1,740,251
Military, Family, and Community Psychological Health and Resilience	Army Study to Assess Risk and Resilience in Service Members (STARRS) Special Forces Analyses of Risk and Resilience Factors	U.S. Special Operations Command	\$473,283
Military, Family, and Community Psychological Health and Resilience	Assessing Pre-Induction Risk Factors Including Pre-Service Medical, Psychological, and Behavioral Data and How These Impact Service-Related Outcomes (Recruitment Assessment Program)	Naval Health Research Center	\$410,000
Military, Family, and Community Psychological Health and Resilience	Impact of Military Operational Stressors on Marital Stability and Dissolution	Naval Health Research Center	\$175,000

JPC-5 Research Area	Title	Organization(s)	FY 2017 Investment
Military, Family, and Community Psychological Health and Resilience	Lesbian, Gay, and Bisexual Couples in the Military: A Post-“Don't Ask, Don't Tell” Examination of Relationship Health, Perceived Community Acceptance, and Mission Readiness	Wright State University	\$1,053,094
Military, Family, and Community Psychological Health and Resilience	Psychological Health and Resilience Through Values Affirmation: Effectiveness of a Brief Intervention Among Military Personnel	Northern Arizona University	\$1,336,863
Operational Exposure Standards for Cumulative mTBI	A Prospective Study of the Effects of Repetitive Low Level Blast Exposure on Fitness for Duty in SOCOM Warriors	Camp LeJeune	\$1,478,000
Operational Exposure Standards for Cumulative mTBI	Development of a Predictive Multiscale Traumatic Brain Injury Model	Office of Naval Research	\$4,610,000
Operational Exposure Standards for Cumulative mTBI	Digitization and Analysis of Non-Contact Inertial Loadings Related to Neurological Injury Within the Biodynamics Data Resource	US Army Aeromedical Research Laboratory	\$1,745,000
Operational Exposure Standards for Cumulative mTBI	Improving Universal Suicide Prevention Screening in Primary Care by Reducing False Negatives	Naval Health Research Center	\$32,000
Operational Exposure Standards for Cumulative mTBI	Model to Scale Blast-Induced TBI from Animals to Humans	Biotechnology High Performance Computing Software Applications Institute	\$466,842
Operational Exposure Standards for Cumulative mTBI	Skull Mechanical Characterization to Support the Army Behind Helmet Blunt Trauma TECD Force Protection Road Map	Johns Hopkins University Applied Physics Laboratory	\$706,496
Suicide Prevention and Reduction	Military Suicide Research Consortium	Florida State University Denver Research Institute, Inc.	\$4,059,002
Suicide Prevention and Reduction	Peer-to-Peer Programs for Military Suicide Prevention	University of Utah	\$2,560,669
Military, Family, and Community Psychological Health and Resilience	Comparative Effectiveness of EIBI and Adaptive Applied Behavior Analysis for Children with Autism	University of Rochester	\$7,000,000

C. JPC-6/CCCRP

The JPC-6/CCCRP neurotrauma portfolio is focused on closing military relevant gaps across a broad range of research areas to improve the acute diagnosis, management, and treatment of TBI and related neurotrauma in multi-domain operations from point-of-injury through transport and hospitalization. Table 3 provides a summary of the JPC-6/CCCRP FY 2017 DHP TBI/PH CSI investments totaling \$49,450,000.00.

Table 3. JPC-6/CCCRP FY 2017 DHP TBI/PH CSI Investments

JPC-6 Research Area	Title	Organization(s)	FY 2017 Investment
Neurotrauma, Neuroprotection, and Neurodiagnostics	Cumulative and Persistent Intermediate Effects of Concussion and Head Impact Exposure in CARE Consortium Military Service Academy Members and NCAA Athletes	Indiana University Medical School	\$7,030,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Development and Evaluation of a Solid State Head CT	University of North Carolina at Chapel Hill	\$316,500
Neurotrauma, Neuroprotection, and Neurodiagnostics	Dose Optimization of Valproic Acid in a Swine Model of Traumatic Brain Injury, Hemorrhage, and Polytrauma, with the Initiation of a Clinical Trial	University of Michigan	\$214,301
Neurotrauma, Neuroprotection, and Neurodiagnostics	Evaluating Effectiveness of NFX101 for Reducing Brain Peripheral Organ Injury and Improving Survival in a Combined TBI with Uncontrolled Hemorrhage Model	NeuroFx, Inc. Naval Medical Research Unit San Antonio	\$534,700
Neurotrauma, Neuroprotection, and Neurodiagnostics	Federal Interagency Traumatic Brain Injury Operation and Management Costs	National Institute of Neurological Disorders and Stroke	\$2,768,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Increasing Survival Rate Following Hemorrhagic Shock and Traumatic Brain Injury in Austere Environments	U.S. Army Aeromedical Research Laboratory	\$101,888
Neurotrauma, Neuroprotection, and Neurodiagnostics	Intelligent Mobile Ultrasound for Noninvasive Intracranial Pressure Estimation in Prehospital and Prolonged Field Care Settings	Phillips Research North America	\$2,508,968
Neurotrauma, Neuroprotection, and Neurodiagnostics	Mesenchymal Stem Cell Therapy for Traumatic Brain Injury	U.S. Army Institute of Surgical Research	\$448,916
Neurotrauma, Neuroprotection, and Neurodiagnostics	Mitochondria-Focused Diagnostic and Treatment Strategies for Combined Blast Traumatic Brain Injury and Hemorrhagic Shock in Rats	Uniformed Services University of the Health Sciences	\$1,040,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Multimodal Brain Function Biomarker of mTBI for Rapid Objective Assessment of Mildly Head-Injured Individuals	Brainscope Company, Inc.	\$1,500,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Novel Noninvasive Methods of Intracranial Pressure and Cerebrovascular Autoregulation Assessment: Seeing the Brain Through the Eyes	University of Michigan	\$1,480,171
Neurotrauma, Neuroprotection, and Neurodiagnostics	Safety of Venous Thrombolysis Chemoprophylaxis in the Prevention of Microthrombi and Secondary Brain Injury in Rat and Swine Models of Penetrating TBI	Henry M. Jackson Foundation	\$1,109,261
Neurotrauma, Neuroprotection, and Neurodiagnostics	Service Academy Concussion Study	Uniformed Services University of the Health Sciences	\$2,827,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Severe TBI Triage and Monitoring with Advanced Cerebral Hemodynamics	Brooke Army Medical Center	\$4,000

JPC-6 Research Area	Title	Organization(s)	FY 2017 Investment
Neurotrauma, Neuroprotection, and Neurodiagnostics	TBI Endpoints Development (TED)	University of California, San Francisco	\$4,000,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	The University of California, Davis-David Grant USAF Medical Center TBI Precision Medicine Network for Complex Trauma	University of California, Davis	\$1,499,996
Neurotrauma, Neuroprotection, and Neurodiagnostics	Toward a Miniature Ultrasound Device for Imaging TBI Under Prolonged Field Care Scenarios	University of Washington	\$2,816,903
Neurotrauma, Neuroprotection, and Neurodiagnostics	TRACK-TBI Precision Medicine - Pathomechanistic Classification of Traumatic Brain Injury: The Bridge of Targeted Therapies	University of California, San Francisco	\$1,500,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Treatment of TBI with Customized Polymer-Based Low Volume Resuscitation	Virginia Commonwealth University	\$1,569,164
Neurotrauma, Neuroprotection, and Neurodiagnostics	Ultra-High Performance MRI System for Microstructure & Functional Assessment of TBI	Fort Belvoir Walter Reed National Military Medical Center General Electric	\$2,760,232
Neurotrauma, Neuroprotection, and Neurodiagnostics	Tau Prion Therapeutics for Chronic Traumatic Encephalopathy	Uniformed Services University of the Health Sciences University of California, San Francisco	\$11,600,000
Neurotrauma, Neuroprotection, and Neurodiagnostics	Protocol to Expand Access to Brain Specimens	Uniformed Services University of the Health Sciences	\$1,820,000

D. JPC-8/CRM RP

The JPC-8/CRM RP seeks to implement long-term strategies to develop knowledge and materiel products to reconstruct, rehabilitate, and provide definitive care for injured Service members. The ultimate goal is to return the Service member to duty and restore his/her quality of life. The JPC-8/CRM RP has been working closely with the Defense and Veterans Brain Injury Center Cognitive Rehabilitation Clinical Recommendation Expert Working Group to identify and target critical knowledge gaps in cognitive rehabilitation. With FY 2017 DHP TBI/PH CSI funds, the JPC-8/CRM RP invested \$17,189,721.00 in research addressing complex TBI rehabilitation within the following areas: (1) cognitive rehabilitation; (2) ecological assessments; (3) mechanisms of recovery – cognitive deficits; (4) sensory systems traumatic injury; and (5) vestibular rehabilitation and recovery (see Table 4).

Table 4. JPC-8/CRM RP FY 2017 DHP TBI/PH CSI Investments

JPC-8 Research Area	Title	Organization(s)	FY 2017 Investment
Cognitive Rehabilitation	Implementation of a Brief Cognitive Rehabilitation Intervention to Enhance Efficiency of Service Delivery for Service Members and Veterans with mTBI: Core-SCORE	South Texas Veterans Health Care System	\$1,471,457
Ecological Assessments	Objective Dual-Task Turning Measures for Return-to-Duty Assessment	Oregon Health & Science University	\$1,699,210
Mechanisms of Recovery – Cognitive Deficits	Objective Multimodal Assessment of Cognitive and Sensorimotor Function After Mild TBI in Static and Dynamic Environments	General Dynamics Information Technology	\$233,057
Mechanisms of Recovery – Cognitive Deficits	Objective Multimodal Assessment of Cognitive and Sensorimotor Function After Mild TBI in Static and Dynamic Environments (Site)	Naval Health Research Center	\$695,000
Mechanisms of Recovery – Cognitive Deficits	Personal Biology and Comorbidity Impact on Post-TBI Cognitive Dysfunction and Neurodegenerative Disease	University of Pittsburgh	\$2,000,000
Mechanisms of Recovery – Sensory or Sensorimotor Dysfunction	Advancing Rehabilitation: Physiological, Psychological, and Neuroimaging Measures of Factors That Predispose, Promote, and Perpetuate Posttraumatic Dizziness	Mayo Clinic and Foundation, Rochester	\$1,978,267
Sensory Systems Traumatic Injury	Quantitative Evaluation of Visual and Auditory Dysfunction and Multi-Sensory Integration in Complex TBI Patients	Vanderbilt University Medical Center	\$167,101
Sensory Systems Traumatic Injury	High-Definition Transcranial Direct Current Stimulation for Sensory Deficits in Complex Traumatic Brain Injury	University of New Mexico Health Sciences Center	\$10,761
Sensory Systems Traumatic Injury	Comorbidity and Health Care Utilization Patterns of Service Members with Refractory Complex Mild TBI versus Those with Mild TBI Who Return to Duty After Treatment	Walter Reed Army Institute of Research	\$241,784
Sensory Systems Traumatic Injury	The Use of Mobile Visual and Auditory Technologies to Implement Augmented Reality Tasks for Vestibular Physical Therapy	Naval Health Research Center	\$4,698,000
Sensory Systems Traumatic Injury	PORTable WARrior Test of Tactical AgiLity: POWAR-TOTAL	Womack Army Medical Center Madigan Army Medical Center	\$5,500
Vestibular Rehabilitation and Recovery	INVENT VPT Trial: Incremental Velocity Error as a New Treatment in Vestibular Rehabilitation	Johns Hopkins University	\$2,480,315
Vestibular Rehabilitation and Recovery	Randomized Controlled Trial of Precision Vestibular Rehabilitation in Military Personnel with mTBI	University of Pittsburgh	\$1,509,269

IV. NATIONAL RESEARCH ACTION PLAN FOR IMPROVING ACCESS TO MENTAL HEALTH SERVICES FOR VETERANS, SERVICE MEMBERS, AND MILITARY FAMILIES

On August 31, 2012, former President Obama issued an EO titled, “Improving Access to Mental Health Services for Veterans, Service Members, and Military Families,” which directed the DoD, Department of Veterans Affairs (VA), Department of Health and Human Services (HHS), and Department of Education (ED), in coordination with the Office of Science and Technology Policy, to establish a NRAP to improve the coordination of agency research into PTSD, other mental health conditions, and TBI; and reduce the number of affected men and women through better prevention, diagnosis, and treatment. To attain these goals, the EO urged research agencies to improve data sharing and harness new tools and technologies.

In response, the DoD, VA, HHS, and ED published the NRAP in August 2013 outlining coordinated research efforts to accelerate discovery of the causes and mechanisms underlying PTSD, TBI, and other co-occurring conditions like suicide, depression, and substance abuse disorders. The NRAP describes research to rapidly translate and implement what is learned into new and effective prevention strategies and clinical innovations, biomarkers to detect disorders early and accurately, and efficacious and safe treatments to improve function and quality of life and to promote community participation and reintegration. In addition, the NRAP describes research to accelerate the implementation of proven means of preventing and treating these devastating conditions. A joint DoD/VA/HHS Review and Analysis meeting will be conducted for PH (PTSD, Suicide Prevention, and Substance Abuse Prevention) and TBI research portfolios on October 25-29, 2018.

To address the objectives outlined in the NRAP, the National Institutes of Health (NIH), VA, and DoD have ongoing and new joint initiatives. Some examples of collaborations include the following:

- The NIH-DoD-VA Pain Management Collaboratory Program leverages research between the DoD, NIH, and VA to conduct efficient, large-scale pragmatic clinical trials on non-pharmacological approaches to pain management and other co-morbid conditions in military personnel, veterans, and their families. Primary outcomes of treatment interventions include assessing pain and pain reduction, ability to function in daily life, quality of life, and medication usage/reduction/discontinuation. Secondary outcomes include assessing impact on comorbid conditions (e.g., PTSD, depression, substance abuse) and enhancing resilience. A total of 11 projects (four DoD projects, six NIH projects, and one VA project) have been selected for funding. Types of approaches being studied include mindfulness/meditative interventions, movement interventions, manual therapies, psychological and behavioral interventions, integrative approaches that involve more than one intervention, and integrated models of multi-modal care.
- The DoD is continuing to upload DoD-funded research information to Federal RePORTER to enable transparent flow of information with the public and across Federal funding agencies. This enhanced visibility mitigates unnecessary redundancy. Updates are submitted to Federal RePORTER on an annual basis.

- DoD and NIH-funded investigators are continuing to upload TBI research data to the Federal Interagency Traumatic Brain Injury Informatics System.
- The DoD is participating in the National Institute of Mental Health-sponsored Psychiatric Genomics Consortium (PGC) for PTSD. This collaboration, of unprecedented size and scope within the field of traumatic stress, is expected to identify genetic associations and new insights into the biological underpinnings of PTSD. From the first PGC PTSD data freeze, the largest Genome-Wide Association Study of PTSD was conducted, based upon 20,070 subjects. Recently, the PGC PTSD group expanded to include more than 35 cohorts with genomic data from 32,000 PTSD cases and 100,000 trauma-exposed controls.
- The VA/DoD Clinical Practice Guideline (CPG) for the Management of PTSD and Acute Stress Disorder (3rd Edition) was published in June of 2017. The CPG offers clear and comprehensive evidence-based treatment recommendations for practitioners throughout the DoD and VA healthcare systems. The CPG can be accessed at <https://www.healthquality.va.gov/guidelines/MH/ptsd/>.
- Development of a PTSD Brain Bank (effort led by VA), which includes brains from PTSD and Major Depressive Disorder patients and healthy control subjects, continues and currently has specimens from over 200 individuals in its collection. Researchers can access this resource through a publically available research application and review process. Recent discussions have focused on collaboration and the possibility of recruitment from well-defined longitudinal data sets (e.g., Army STARRS, Brain Health Registry, Vietnam-Era Twin Registry).
- The Consortium to Alleviate PTSD (CAP), which focuses on advancing clinically useful biomarker research related to improved diagnosis and treatment or treatment response, is now fully implemented with 11 studies underway. The CAP is a jointly funded VA/DoD initiative, with research projects focused exclusively upon active duty military and veteran populations. Two pilot studies are complete with positive results.
- Research findings from both VA and DoD researchers have concluded that delivery of psychological health care for PTSD via telehealth is equivalent to in-person treatment, a finding that should substantially increase access to care.
- The DoD is collaborating with the VA on the Naval Health Research Center (NHRC) Millennium Cohort Study (MCS), which is a prospective epidemiological research study focused on evaluating the impact of military exposures, including deployment, on long-term health outcomes of 202,000 active duty participants. Two VA investigators work with the MCS team at the NHRC and the MCS is working collaboratively with the VA Million Veteran Program to assist with referral of MCS participants.
- The DoD Military Suicide Research Consortium (MSRC), which is co-led by investigators at the VA Rocky Mountain Mental Illness Research Education Clinical Center for Suicide Prevention (VISN 19), focuses on conducting research to deliver evidence-based tools and interventions for suicide prevention that are effective for the

military population. The MSRC started in late 2010 and awarded 24 studies. A second round of the consortium, funded in FY 2016 with TBI/PH CSI dollars, emphasizes moving promising interventions/tools from MSRC 1.0 forward and establishing a Dissemination and Implementation Core, conducting secondary data analyses, and pursuing intervention research focused on areas that the military external advisory board identifies as high priorities (e.g., effective interventions/tools for leaders).

- The Targeted Evaluation, Action, and Monitoring of Traumatic Brain Injury (TEAM-TBI) is a collaboration between the DoD, National Intrepid Center of Excellence, Naval Medical Center San Diego, and the University of Pittsburgh. TEAM-TBI brings together TBI patients, advanced evaluation methods, and world-class experts in a monitored, multiple interventional trial design to address the heterogeneity of TBI and identify evidence-based treatment protocols.
- The TED is a DoD-led initiative with over 20 universities and hospitals to establish a collaborative, multidisciplinary team to advance the identification and validation of clinical outcome assessments (COAs) and biomarkers for use as potential Food and Drug Administration-qualified drug development tools, and initiate development of Clinical Data Interchange Standards Consortium data standards for clinical trials involving diagnosis and treatment of mild to moderate TBI and to validate candidate COAs and biomarkers.
- The DoD and NIH are collaboratively funding the Transforming Research and Clinical Knowledge in TBI (TRACK-TBI) effort to determine and validate new diagnostic brain imaging modalities, establish clinically-relevant TBI biomarkers, and refine TBI outcome assessments to improve clinical trial design. To date, over 3,000 patients have been enrolled in this study. The TED initiative and TRACK-TBI work together to share data and findings.

V. CONCLUSION

The DoD is committed to continued research in TBI and PH to assist Service members and their families.